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Abstract

Knowledge construction is a complex process in which the widespread use of the term *information* is not, by itself, sufficient to cover its nuances. This leads to a host of discussions of the importance of appropriation of information, which is a key concept for understanding the mediation of information. This study aims to explore the following questions: What is the relation between appropriation of information and knowledge construction? Would mediation be the way to these terms association? The overall purpose of this article is to assess the links between appropriation of information and knowledge construction. Knowledge construction, interaction between subject and appropriation of information are explored themes from bibliographical researches. The results obtained could clarify and bring the importance and therefore outlining the mediating posture of the information professional, as well as underlining some aspects of discussions on characterization of information.

Keywords: Knowledge construction, appropriation of information, mediation of information, mediator.

Apropiación de la información, construcción del conocimiento y el papel del mediador

Resumen

La construcción del conocimiento es un proceso complejo en el que el uso generalizado del término *información* no es suficiente para cubrir sus matices. Esto conduce a una serie de discusiones sobre la importancia de la apropiación de la información,

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concepto clave para entender la mediación de la información. Este estudio pretende explorar las siguientes preguntas: ¿cuál es la relación entre la apropiación de la información y la construcción del conocimiento? ¿Sería la mediación el camino hacia esta asociación de términos? El propósito general de este artículo es evaluar los vínculos entre la apropiación de la información y la construcción del conocimiento. La construcción del conocimiento, la interacción entre el sujeto y la apropiación de la información son temas explorados a partir de investigaciones bibliográficas. Los resultados obtenidos han aclarado aspectos sobre la importancia de la preocupación por la apropiación de la información en el desarrollo de servicios de información, categorizando, por lo tanto, una postura mediadora del profesional de la información y pone de relieve los aspectos de las discusiones de la caracterización de la información en sí.

Palabras clave: construcción del conocimiento, apropiación de la información, mediación de la información, mediador.

1. Introduction

The origin of this study arose from the need to explore specifically the discussion between appropriation of information and knowledge construction.

Knowledge construction is a complex process that passes through several points and contexts of individual such as being inserted in society (Morin, 1999). The relationship with information should be considered within this complexity, avoiding the simplistic thought of information professionals, which ignores important points about how to add value to information. It is important to remember that the value of information is already added within the construction of information and, in addition, other values may be added throughout its life cycle.

The widespread use of the term *information* is not enough to create a cycle of knowledge, since this cycle is not constant, in addition, it presents a breakdown considering what the knower knows about the world, what is already constructed and never ends, however it presents a never-ending questioning about the world. (Oliveira, 2015).

Concerning this, it is considered the need to adopt a new stance that recognizes information as a process, which can only be designated as such by the individual who seeks information, although it is materialized based on possibilities determined by all individuals during the continuous construction of information, which is used as parameters and limits. This leads to a discussion of the importance of appropriation of information, the heart of mediation of information.

The questions arise: How is that both appropriation of information and knowledge construction are related? Would mediation be the way to these terms are related? The general aim of this study is to analyze the existing relations between appropriation of information and knowledge construction, as well as the emerging of mediation during these relations.

The research constitutes an exploratory and qualitative documentary study about the relations between the appropriation of information and the construction of knowledge, followed by a contrastive analysis that places the position of the mediator of the information in relation to the reader during a mediation process.

The results obtained can clarify, in the scope of Information Science (CI), the importance of the concern with the appropriation of the information and the aspects of the discussions of the own characterization of the information for the area.

2. Knowledge Construction

It should be considered the changes in society in which the Library and Information Science (LIS) is embedded. All paradigm shifts, globalization, as well as popularization of Internet, etc., are factors that compose the scenario where science is developed. Over the years, many services and studies are presenting themselves insufficient and subject to change within the new scenarios. There is no escaping this questioning, which is growing all the time in the field of LIS. This questioning cycle is not assumed in a different way.

According to different fields, human knowledge follows different approaches. It is studied the role of brain, praxis, culture, time, etc., within this complex process. Therefore, the question arises: What involves this complexity? Morin (2003) points out that

> at first sight, complexity is a tissue (*Complexus* means that which is woven together) of heterogeneous constituents inseparably related: it presents the para-

dox unity and multiplicity. Secondly, complexity is effectively the tissue of events, actions, interactions, retroactions, determinations, hazards, all that constitutes our phenomenal world. Thus complexity reflects many disturbing traits of tangle, of inextricable, of disorder, of ambiguity, of uncertainty… therefore knowledge needs to order the phenomena rejecting the disorder, driving off everything that is uncertain, that is to say select elements of order and certain, specify, clarify, distinguish, prioritize […]. (p. 13)

Studying every point of knowledge construction separately, excluding all aspects mentioned by Morin, might find interesting considerations since they are based on segmented visions of a whole, which makes the individual lose a lot about himself as a whole.

Morin (2011) also stresses that

Everywhere there is the need for the principle of explanation that is richer than the principle of simplification (separation/reduction), what we could call principle of complexity. It is clear that it is based on need to distinguish and analyze, as the precedent one, but in addition, it seeks to establish communication between what is distinguished: the object and the environment, the observer and what is observed. It is required an effort not to sacrifice the whole to the part or the part to the whole, but to understand the key problem of organization […]. (p. 30)

As mentioned above, this view and complex study about the whole is based on with a focus on certain points, however it must be emphasized that it is not possible to isolate the analysis. In this case, the individual is not excluded from the environment for understanding generation of knowledge, on the contrary, the points exposed in this relationship between being/environment, which passes through this construction.

Every Being has a genetic load resulting from many years of evolution of a species. These characteristics will involve physical peculiarities, which will have impact on the development of each individual.

It should be also noted in this respect that there is a changing historical context full of socio-cultural influences responsible for perceptions and attitude to

life. Hessen (2000) points out the essence of knowledge: "Awareness and object, subject and object are faced to each other in knowledge. Knowledge appears as a relation between both elements. Within this relation, subject and object remain separated forever. Subject and object dualism belongs to essence of knowledge" (p. 20).

The relation between subject and object also represents a correlation; this means that there is no exhaustion or annulment of any of them during the process. Considering this problem as a priority, the question arises: how is that both subject and object are related?

Taking this relation as a dialogue, there is a context where individual and environment although mutually express and affect each other they still living individually. The individual changes his environment at the same time he is changed by the environment and both individual and environment continue to live separately.

As Blikstein (2003) said, the vision that is held of world and reality "depends, above all, on a social practice and construction" (p. 53). Being in the world does not provide, by itself, the response to knowledge construction. Nevertheless, there is a real need of immersion and familiarity with peculiarities and expressions of society.

Morin (1999) holds that "knowledge cannot be dissociated from human life because it is at the same time biological, cerebral, spiritual, logical, linguistic, cultural, social and historical" (p. 26).

Imbrication of all these aspects that is also called knowledge, which is characterized by the process involved in this construction, including personal, historical and social aspects, considering an infinite cycle of construction and deconstruction.

It would be a mistake to ignore these complex aspects, which form part of the human beings, the world and which is obviously part of knowledge. Morin (2007) considers this "blinding", "prehistory of human knowledge", resulting in the generation and dissemination of "mutilating believes".

This means when complexity is excluded, the generation of knowledge does not disappear, but it is done on a wrong way, that is, on a way that excludes the whole, which exists before the part, which is made of it, which

is part of it. As Morin said, complexity is not "the key to the world", on the contrary, it is a challenge to be faced in the world.

3. Appropriation of Information

According to the *Glossary of technical terms on Library and Information Science* – LIS (Informação, 2010), information is defined as:

> gathering of data in a meaningful manner in order to be able to communicate. The content may appear in any format —written or printed, provided by electronic database, gathered on the Internet, etc.— it could even appear on a personal knowledge of an organization [...]. Knowledge management and content management represent a very recent development of value and power of information. (p. 24)

On the face of it, information can be taken as "gathering of data" that needs to be communicated in a meaningful manner, independently of materiality —as it could even appear "on a personal knowledge of an organization".

Ramos (2008) stresses that information has demonstrated a central position in the contemporary world, supporting the organization of society sectors in order to develop action strategies, which represent a true synonym of power. The author defines information as a "desirable good", more and more available both in an individual and collective context. He also sustains that the access to information is "strictly necessary" in all segments of the world, since it is a true driver to the development of citizenship, cultural and artistic production and social inclusion processes.

Information started to be seen as one of the greatest riches of the world, the so-called "intellectual capital". The various existing organizations started to recognize the importance of information, thus increasing focus on information sharing, in order to contribute to growth of their intellectual capital (Benítez & Bonmann, 2002).

This special emphasis, by itself, demonstrates the need to explore the information aspects within LIS, because the field of study shows clearly what its interest in information, thus should follow its development.

Considering this context, it is important to stress the difference between data and information. *Data* are easily retrieved, communicated and stored because they are fragmented and have a simple structure. On the contrary, *information* requires *analysis* and *context*, which is only generated after a *human intervention* and that is this intervention its main complexity (Davenport, 1998).

Barreto (1994) points out that since information is assimilated appropriately, it can produce knowledge, change existing information as well as benefit the development of the individual and society where he operates.

The nuances of appropriation of information must be stressed, so it will not be confused as physical appropriation, such as a book appropriation. Setzer (2001) clarifies:

> *Information* is an informal abstraction (that is, it cannot be formalized using mathematics and logic), that is present in the mind of someone, which represents something significant to this person. It should be noted that this is not a definition, but a characterization because the terms '*something*', '*significant*' and '*someone*' are not well defined; here, I assume an intuitive understanding (ingenuous) of these terms. (n. p., emphasis added)

It should be noted the nomenclature "informal abstraction", pointing out the existence of materiality during this appropriation. As already mentioned above, this abstract act is individual. Setzer (2001) adds that:

> Information may be an interior property of a person or it may be received by the person. In the first case, it is in the mental sphere and eventually may arises in an interior perception, such as to feel pain. In the second case, it may or may not be received by a symbolic representation data, that is, any text, pictures, sound, animation, etc. [...] representation, by itself, (for example, a text), consists exclusively of data. On Reading a text, one can assimilate it as information since it is understood. One can associate reception of information by checking data of a message. However, information can also be received with no message. For example, on a cold day, in a heated environment, if you put the arm outside the window you obtain some

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information —too warm or too cold out there. It may be noted that this information is not externally represented by symbols, for this reason may not be called message. On the other hand, there are some messages expressed with no data, such as a great scream produced by a *vocal noise:* it can contain *a lot of information for who receives it, but no data.* (n. p., emphasis added)

The example above *(vocal noise)* leads the discussion that information is defined as information according to a broader context, that is, takes this *status* in all information universe and above all, highlights that information can be found by using different formats and not only written form.

Although information can been begun from making physical/material contact, there is no materiality because information is immersed within the cognitive meaning, inside the individual's mind.

So, information cannot be used in the literal sense of the word, because it does not have external characteristics of expression. On this basis, an individual does not transfer information because what is information for him might not be the same for everyone else. Claiming that information can be transfer means taking an arbitrary position in which knowledge is transferred and unchanged.

Almeida (2007) highlights one of the most important aspects in this field of study: "It should be clear that appropriation of information presupposes a change, a transformation, a modification of knowledge, in other words, a production action, and not merely a consumption action" (n. p.).

Thus, "receive for himself" as mentioned earlier, requires an active position of the Being that appropriates something. There is no transfer because there is no passive subject. On the contrary, the subject takes an analytical and critical view, being regarded as a sign within a world full of meanings, which does not necessarily mean that it is conditioned to have meaning.

Faraco (2009) clarifies that: "All our relations with our living conditions —with our natural environment and social contexts— only happen by a semiotic mediation. Indeed, we live in a world of languages, signs and significations" (p. 49).

At the same time semiotic signs are immersed in the world, they are also the immersion of the world (in all its existential and representative fullness), thus, the same sign presents different refractions (or interpretations).

Peirce (2005) clarifies:

> A sign is anything which is related to a second thing, its Object, in respect to a Quality, in such a way as to bring a Third thing, its interpretant, into relation to the same object, and that in such a way as to bring a Fourth into relation to that Object in the same form, *ad infinitum.* (p. 28)

Thus, regarding that the human being himself lives in a constant relationship with other living creatures, he himself became a sign which is immersed in these endless relationships as stated by Peirce, relating to new representations and, thereby changing his own representation.

Faraco (2009) also points out that

> the signs not only *reflect* the world (they are not only a copy of the world) but they also (and especially) *refract* the world.
>
> In the referencing process, the signs carry out two operations at the same time: they reflect and refract the world. That is: we can use the signs in order to show the external reality of them (to the materiality of the world), but we always do that on a refracted manner. *Refract* here means that we use our signs not only to describe the world, but also to construct —within the dynamics of history and as a result of heterogeneity and multiplicity present in concrete experiences of human groups— several interpretations *(refractions)* of the world. (pp. 50-51)

The same element, therefore, presents different refractions or interpretations. Peirce (2005) also addresses the nature of the objects as seen from a semiotic perspective, that is, the objects are divided into two categories: dynamical and immediate objects. Dynamical Object is the "reality", that is, the object as it really is, represented by the sign; and the immediate object is 'the form', that is, the object as the sign itself represents it. Santaella (2002) clarifies that the proper term to

use is immediate because "we could only access the Dynamical Object through access to Immediate Object because of its mediating role, that is, the sign is always responsible for putting us in touch with everything we call reality" (p. 15).

Taking into account that the immediate object is a representation of the dynamical object, it can be said that the former does not deplete its existence, and thus, the need of the depletion of reality and the clear outlook on things are the result of our searching, which has happened time and time again, for better understanding the dynamical objects in the world and the entire universe. It can therefore be concluded that the immediate object is a mediation of the dynamical object because its main characteristic is the intention of create the appropriation of a significant reality of signs.

From its conception of sign, objects and relations, Peirce (2005) presents a semiotic analysis based on his three phenomenological categories: Firstness, Secondness and Thirdness, which are referred by Monteiro (2006) by using key concepts in order to summarise the individual's cognitive process: "firstness expresses the quality of feeling, secondness expresses the reaction is felt by sensation and thirdness is the need of mediation of word to represent concepts and ideas" (p. 47).

Firstness means one can relate to the world of signs unconsciously, secondness is related to identification and recognition and thirdness is related to immersion in wider meanings.

In this respect, it can be assumed that appropriation of information is present in thirdness because there is not only a contact with signs (whether or not they are data), even their mere recognition (when a text is defined as a text, it does not imply the obligation of meaning), but there are recognition, aggregation of values and intellectual contextualization of something.

Concerning a semiotic treatment of appropriation of information, it is also pointed out that frequent contact with immediate objects according to their presentation of reality (dynamical object) interferes with relation and appropriation process considerably.

The relation to meaning is different according to immediate contact with object and the relation to dynamical object. For example, for most people the presence of smoke can indicate some information such as a sign of danger, however not all people are able to appropriate aspects of the types of smoke, which is one vital piece of information (it holds a position of high distinction on the informational world) for a fireman who has a constant access to this dynamical object.

On the basis of the above, it is assumed the difference among "something", "significant" and "someone", intuitively mentioned by Setzer (2001), which are considered as decisive factors when considering information as information abstraction that has a significant representation in the mind of a particular person.

The time of appropriation of information is explained by Costa and Almeida (2012):

> When it is said appropriation of information, it becomes clear that this information has concretized, it has been changed in any way the preexisting knowledge and it has also had significance for the decision making process which can influence any activity of production and generation of knowledge. (p. 67)

Appropriation of information is a cognitive activity as it is intrinsic to the Human Being, which is based on his relation with the environment.

Starting from a more current overview, the general idea of information excludes the possibility of data —they represent a construction based on cognitive line in order to affirm the individual role (or informational subject). If there are data and they have no meaning (which will be determined exclusively by the subject), there is no information so far and it is based on neutral things (data). When information is constructed by an informational producer, it is already charged with significant meanings and receives other meanings as it is constructed. Thus, information can only be constructed within a process which culminates in the informational subject, providing meanings to information and determines it for himself, but with a limit imposed by all meanings provided for information. In this way, information throughout its entire life-cycle is not and can never be considered as a neutral thing. The subject appropriates information consciously or unconsciously, he is responsible for determining the meaning,

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then he has the power over information, according to his understanding of data, because he creates and gives life to information himself exclusively. Our understanding does not follow the same direction. To our mind, the information subject does not have complete power over information that is appropriated, in other words, appropriation takes place both consciously and unconsciously. The information subject is, indeed, a great figure in this process, however his is not the only one, he divides his role with all other figures that have participated in information life cycle. Starting from a conception based on dialogism, we firmly believe that information does not answer doubts and also does not cover cognitive gaps, instead, it creates conflicts and needs, interests and information wishes.

The appropriation process plays an infinite role because, when there is an extended vision of significance of a particular matter or aspect, new possibilities of interaction and exploitation arise, as if appropriation was the food of knowledge in all its endless development capability.

4. Interaction Subject/Information and the Role of Mediator

The interaction between subject and information within appropriation of information can be identified as a primary object in the process of knowledge construction.

It is often highlighted that when there is contact with new information it is possible to create and/or expand knowledge. It is started questioning this simplicity of reasoning.

> The reality has always been its meaning. Things are what they mean and what they mean is what counts. Whether they are Virtual, that is, immaterial or material, everything is suspended in an endless, mutant and surprising network of meanings. As supported by McLuhan, extensively about information structure, perception of reality depends on how the senses of the human body are used and balanced in use of the media throughout history. (Ilharco, 2003, pp. 42-43)

Ilharco (2003) sustains that meaning is the key point in the materialization, so to speak, from reality to subject. The author takes up the importance of perception, which is fully dependent on the environment where human being lives —his conceptions and relations established with his historical, social and spatial context. This perception is one of the several limits of appropriation of information, since information already comes to us full of meanings, so, our appropriation and understanding fit with a defined field.

Then, the simplicity of a concept, which shows a transposition of information, is wrong because it does not consider cognitive and physical peculiarities, which are unique and inconsistent, due to the fact that the human imperfection carries its limitations and nuances throughout the entire process of evolution and learning which should also not be ignored (Pieruccini, 2007, n. p.).

The same content can present completely different manifestations. It is therefore very difficult to classify something as information because it is not possible to predict fully the type of relation will be established by the subject. What do we have then? It is exposed the suggestion of the term *protoinformation* that, in this analysis where the information by itself is not capable of aggregation of constructive value, seems extremely compatible. The information is presented in the ephemerality, being concretized only in the relation of the user with the support, having then an existentiality dependent of this interaction (without an *a priori* existence) and, thus, we identify that the professionals of the information deals with the protoinformation (Almeida, 2009), that is, the "information that is not yet ready, it exists only as potential, almost-information, possible-information, probable-information" (Fadel et al., 2010, p. 19).

It is established some work of providing protoinformation, something that exists as information potential, but cannot yet be considered as information —this term appears only when there is a contact with user, the Being who is responsible for adding or not adding value to something, partially or totally.

Therefore, the mediation of information can be described as

any action of interference - carried out in a process, by an information professional and in the ambience of informational equipment -, direct or indirect; conscious or unconscious; singular or plural; individual or collective; aiming at the appropriation of information that satisfies, partially and in a momentary way, an informational need, generating conflicts and new informational needs. (Almeida, 2015, p. 25).

This relation returns again to the concept of complexity proposed by Morin —it can be said that isolating information in order to study implies the abandonment of the constructive part of the subject, which complements the idea that there is no information a priori. The relation subject/information is also defined as a complex process, establishing a relation that permeates both sides, as discussed above.

When the information professional changes his mind and takes the view that complexity is part of construction of human knowledge and, on the basis of this view, he determines the ways to work on the availability of protoinformation, he will assume the role of mediator of information. This line of thinking within the informational universe of reader generates some influences that will be shown in the figures below.

The choice of the term reader instead of 'user', 'customer' has been carried out under the idea that individual is a constant reader who always has a broad concept of reading, cutting across several aspects, such as written, sensitive, oral, imagery, sound and all other possible aspects. The individual, therefore, reads the world and the life (whether consciously or unconsciously), so, that is why we have opted for maintaining the use of the term reader.

Figure 1 illustrates a possible relation established between a reader and his informational world. It is highlighted that the term used mediator illustrates the position of the professional known as information mediator, instead of illustrating the mediation within a broad concept.

Although the model presented above has a perceptible distance, it must be recognized that there is a good relation between reader and all other factors that are part of his universe, mainly because of the reciprocal influence of factors/reader (as indicated by the

arrows): the factor influences the reader but it is also influenced by the reader, showing the active position of reader, however this may still be distant and not a very expressive position (illustrated by a thin line, relatively far from the core, formed by reader factor).
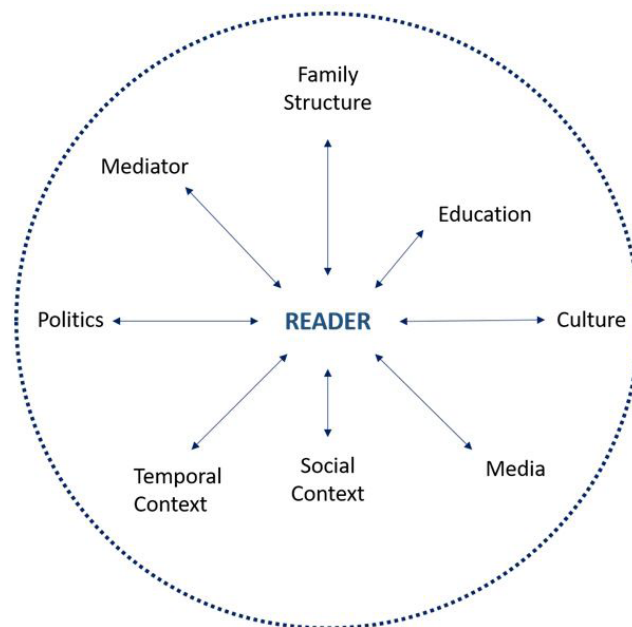

Figure 1. Reader's Informational Universe I.
Source: Authors.

It must be pointed out, however, that this relation usually happens in different ways, creating a scenario where reader only receives influences of particular factors, as shown in Figure 2:

Unlike Figure 1, the factors present in Figure 2 *(Media, Education, Culture and Mediator)* establish a single impact chain: They influence reader but are not influenced by him effectively. In this model, the presence of mediator works with the idea of mediation as a bridge – 'information is provided', and the same applies for the contact with media and culture (exemplified by arrows indicating they are not influenced by reader).

It can also be observed in Figure 2 that a simple relation, which offers no expression of reply active in reader, does not determine a general position because reader has a reciprocal relation with all other factors (family structure, social and temporal contexts and politics).

Information mediator appears in both figures (1 and 2) as one of the main factors, and his aspiration must be (or sholud be) to create a close relationship with the reader in order to

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better understand how reader and all the other factors are related. As shown in Figure 1, this measure may give rise a closer relation with all other factors of his universe, also including new factors. Considering Figure 2, this measure may give rise the establishment of the reciprocal relation non-existent in particular factors (*Media, Culture, Education and Mediator*), as mentioned above.
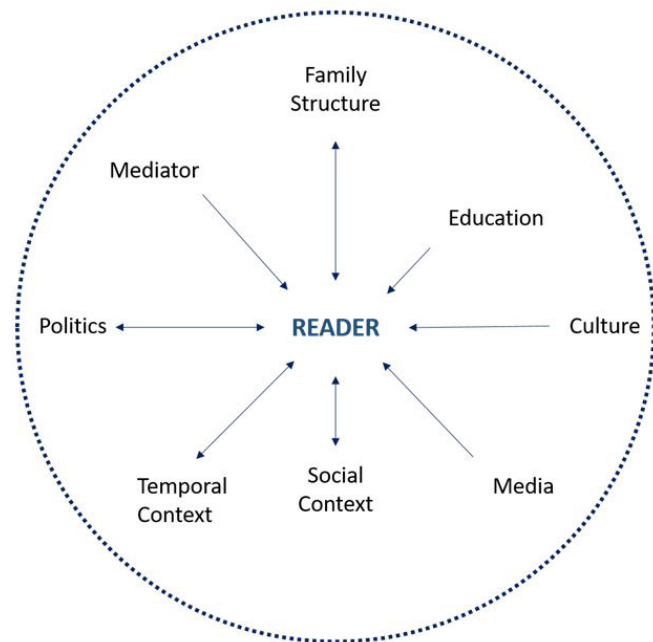

Figure 2. Reader's Informational Universe II.

Source: Authors.

The expected universe, when reader is inserted into an environment of a broad mediation, that is, a mediation that uses all its tools and applications available, will be illustrated in Figure 3:

In this model (illustrated in Figure 3), it can be observed a representation of an informational fictitious world where there is not only a closer presence of mediator to the reader, but also further consolidated in the representation of a relationship firmly established (as illustrated by a smaller, thick and solid arrow with a reciprocal influence among the factors). The resulting impact of mediator action has on reader is not the distance from the other factors, but the opening of lines, which had so far been robust lines, as demonstrating possibilities of questioning between them and the reader, strengthening the link between all the parts (arrows in thicker and dotted lines, also highlighting the need for mediation to open new questions instead of creating doubts). Furthermore, and above all, there is the emergence of new lines, even though there are not preestablished factors, introducing new possibilities of interaction, thus providing an extension of each reader's informational world.
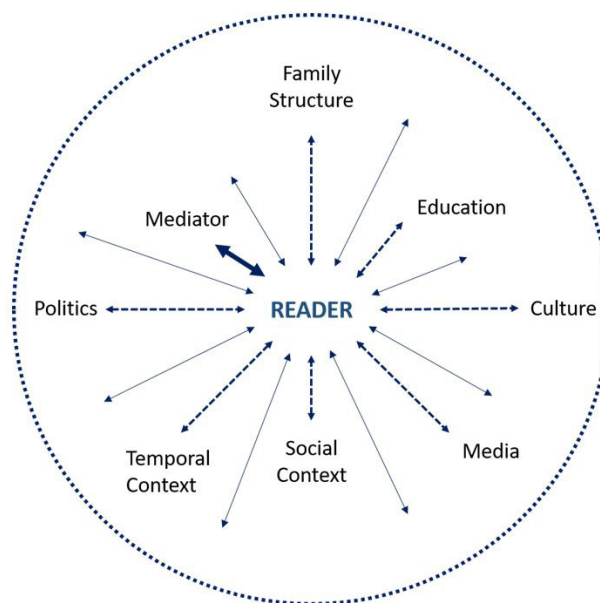

Figure 3. Reader's Informational Universe III.

Source: Authors.

The model III, as presented in Figure 3, is what is expected in an environment where the mediator recognizes his role and abilities, providing more proximity to the reader —remembering that this contact does not necessarily have to be physical, but it can and must also be exercised by implied mediation.

This implied contact occurs when, structurally, an information unit starts developing itself, strategically, with a focus on its public, aimed at increasing possibilities of reading and attracting its readers, showing a proactive position according to its informational needs.

5. Conclusion

The aim of this study was to analyze existing relations between appropriation of information and knowledge construction. After analysis, it was possible to conclude that adopting a mediating posture can be considered as a posture that shows real interest in appropriation of information.

It was possible to understand the association between appropriation of information as a factor designed as 'the end' of mediation of information and may have an influence on knowledge construction (considered in its complexity) and critical thinking (when absorbed consciously may contribute to individual's critical position in society). The term 'the end' appears between quotes in order to remember that appropriation of information, based on characteristics of complex knowledge construction and the need for a crit-

ical thinking, aims to open new gaps instead of putting an end because it constitutes, thus, an endless cycle.

Focusing on appropriation of information, which can only be determined by the subject who is responsible for added value to things and relations, it can be said that a content must be mediated and not available on a random basis, within a process based on a social and historical user, considering its generic characteristics of the region as an initial filter that aims to establish refinement from contact with community.

Age, gender, social status, customs and other determined factors now providing a dialogue between reader (as a person who needs information) and mediator, constantly searching for involvement, which is enriched by possibilities of cognitive growth for both.

Therefore, appropriation of information is intrinsically linked to development of knowledge and development of concern about these aspects. From this point of view and adopting a mediation position, the information professional can reach more assertive steps in the search for a positive impact on his projects and works carried out, as well as inspiring new implementations and improvements of services.

There is a need for better recognition of the information professional as mediating agent as well as the impact that can be made when there is an active posture and, above all, we must also recognize the need for a clear understanding of the real aspects involved in a suitable mediation and not only in the simple 'mediating bridge'. Recognizing the aspects mentioned above is the first step to the beginning of researches and development of techniques and proper skills used by a mediator, many of which have already been understood, but they are forgotten (whether consciously or unconsciously) when its importance is ignoring.

Information professional assumes his mediating role as responsible for establishing the dialogue between subject and protoinformation, which promotes and monitor the process of knowledge construction. This work must be, mainly, a monitoring work because knowledge cycle does not end.

Contact with information does not close a cycle, on the contrary, it opens new ways, new discussions, it generates more doubts, that is, leaving the well known comfort zone.

6. Acknowledgments

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